Atmospheric conditions during Smithsonian observations, November 1936

Date	Time from apparent noon	Temperature °C.	Wind, Beaufort	Visibility	Sky blueness	Cloudiness and remarks
Nov. 1	1:56 p. m.	+15.9	SW 4	8	7	Few Ci, 1 Acu, light haze, instr. indoors.
5	3:29 p. m.	+7.5	NNW 5	9	7	Few Ci, 1 Cu.
9	0:17 p. m.	+5.6	NW 2	9	7	1 Cu, light haze.
9	2:55 p. m.	+7.2	W 1	9	8	Few Ci, light haze.
10	2:21 p. m.	+7.3	W 1	9	8	Few Cu, light haze, instr. indoors.
11	1:17 a. m.	−0.2	WNW 4	9	8	Zero clouds, light haze, instr. indoors.
12	2:54 a. m.	+3.1	SW 4	6	7	1 Ci, moderate haze.
13	2:02 a. m.	+5.3	N 4	5	6	Zero clouds, dense haze.
14	2:33 a. m.	+3.6	S 5	6	7	Few Ci, dense haze, instr. indoors.
15	0:21 a. m.	+9.1	W 4	8	7	Few Cu, light haze.
18	1:35 a. m.	−6.7	NNW 7	9	7	Few Acu, light haze, instr. indoors.
19	1:00 a. m.	−6.8	NW 6	9	7	Do.
21	3:00 a. m.	+6.7	SW 3	6	7	Few Ci, 2 Acu, moderate haze.
21	3:17 p. m.	+14.2	W 4	7	7	Few Ci, Few Acu, moderate haze.
23	2:08 a. m.	−4.2	WNW 5	9	7	Few Cu, light haze, instr. indoors.
23	0:35 p. m.	−1.9	NW 5	9	8	Few Cu, light haze, instr. indoors.
26	1:50 p. m.	−0.8	WNW 5	8	7	Few Acu, few Cu, light haze, instr. indoors.
27	3:10 a. m.	−7.5	WSW 3	7	7	Few Ci, few cu, light haze, instr. indoors.
27	1:43 p. m.	−4.6	W 4	8	7	Do.
28	3:09 a. m.	−8.8	S 3	7	7	Zero clouds, moderate haze.
30	3:51 a. m.	−7.7	W 4	8	7	Few Stcu, Frcu, Cu, light haze.

POSITIONS AND AREAS OF SUN SPOTS

Note.—The report for December 1936, not having been received in time, will be included in the January 1937 issue of the REVIEW.—*Ed.*

PROVISIONAL SUN-SPOT RELATIVE NUMBERS, NOVEMBER 1936

[Dependent alone on observations at Zurich and its station at Arosa]

[Data furnished through the courtesy of Prof. W. Brunner, Eidgen, Sternwarte, Zurich, Switzerland]

November 1936	Relative numbers	November 1936	Relative numbers	November 1936	Relative numbers
1	*d* 118	11	*Eac* 148	21	28
2	*a* --	12	*aa* 133	22	*b* 39
3	*Eac* 149	13	*a* --	23	*d* 46
4	*ad* 140	14	*ab* --	24	43
5	159	15	119	25	*Ecd* 70
6	*Eacd* 151	16	95	26	96
7	*ad* 127	17	*Ec* 92	27	*d* 141
8	*Ecd* 140	18	61	28	*Ec* 212
9	127	19	60	29	*ab* 192
10	150	20	---	30	---

Mean, 25 days=113.4.

a=Passage of an average-sized group through the central meridian.
b=Passage of a large group or spot through the central meridian.
c=New formation of a group developing in a middle-sized or large center of activity: E, on the eastern part of the sun's disk; W, on the western part; M, in the central circle zone.
d=Entrance of a large or average-sized center of activity on the east limb.

AEROLOGICAL OBSERVATIONS

[Aerological Division, D. M. LITTLE in charge]

By L. P. HARRISON

Mean free-air temperatures and relative humidities for November, as determined from airplane weather observations, are given in table 1. The "departures from normal" given in the table are based on "normals" derived from the number of observations indicated in the note at the foot of the table, where the number of years over which the observations were taken are given by the figures in parentheses. In general, the numbers of observations available for computing "normals" for the higher levels are less than those available for the lowest levels (represented by the data given in the footnote). To compensate for this discrepancy, the "normals" are obtained by applying the mean differences between the successive standard levels to the data for the lower levels, where the "normal" for the surface based on the indicated number of observations serves as the reference basis. The "normals" in each case include the data for the current month. It will be noted that many of the "normals" are based on only 3 years of observations. "Departures from normal" in such cases must be regarded as having little weight in comparison with departures from "normals" based on much more extended periods of record (35 or more years, say, which are not uncommon in climatology).

The mean temperatures for the month at the surface (see chart I) were generally below normal in the eastern half of the country, and in most of Texas and southern New Mexico, as well as in a large part of the extreme northwest portion of the country with the exception of northwestern Washington, which had above-normal temperatures. The largest negative departures from normal at the surface were to be found in the Great Lakes region and southward for several hundred miles, with an average of about −2° C., and also in the northern half of the extreme northwest portion of the country (excepting northwest Washington) with an average of nearly −3° C. The remaining portion of the country and southwestern Canada largely had above-normal temperatures at the surface, with maximum positive departures to be found in the southern California coast region, and notably in southwestern Canada where the average departure from normal appeared to be slightly over +4° C.

The mean temperatures for the month in the free air (see table 1) appeared to show that the significant negative departures from normal observed at the surface near and somewhat to the south of the Great Lakes region were not merely superficial but were also predominantly in evidence at all elevations up to at least 5 km in the northeast sector of the country, with perhaps the exception of the levels from 3 to 5 km near the coastal area adjacent to New York. (See Mitchel Field.) If we may regard the departures from normal given in table 1 as representative, the data for Selfridge Field (Mount Clemens, near Detroit), Mich., Wright Field (Dayton), Ohio, and Omaha, Nebr., indicate that departures from about −2° to −4° C., prevailed in the area under consideration.

The mean temperatures for the month in the free air also gave evidence that the extreme northwest part of the country at all levels up to 5 km, except the lowest stratum near the ground, was dominated by positive departures from "normal temperatures" ranging from 0° to a maximum of +4° C. This condition apparently was associated in some manner with the similar above-normal temperatures observed at the surface in southwestern Canada and northwestern Washington.

Mean free-air relative humidities for the month were slightly above normal in the extreme southwestern portion of the country at practically all levels up to 5 km, and also in the south-central portion at moderate and higher elevations (2.5 to 5 km). (Note departures: +5 percent to 8 percent at San Diego from 1.5 to 5 km; +7 to 11 per-